Dear Wayne,

We read with interest your letter of August 20, 2020, to the Navy "EPA Review of Navy Draft Evaluation of Radiological Remediation Goals for Onsite Buildings-Hunters Point Naval Shipyard Superfund Site."

We would appreciate it if you would provide us with the documents providing the basis for:

1. The claims that no contamination could possibly exist on surfaces inside any building higher than 6 feet on walls and none on ceilings.

= No, that's not what our letter says. The Navy's RESRAD BUILD evaluations assume that contamination is present only on the floor. We think a more conservative/protective assumption is to assume the contamination also extends to the lower walls. When applying the remediation goals, we would expect the Navy to provide evidence that the extent of contamination in the building being evaluated is consistent with this assumption (i.e., evidence that the upper walls and ceiling are not contaminated if it is assumed that contamination is limited to the floor and lower wall).

2. The statement: "Our preliminary calculations using the modified version of the BPRG calculator indicate that the majority of the radiological building RGs remain protective for fixed contamination." We would appreciate if you would also provide the identification of the Remediation Goals (RGs) that are not protective and the comparison of those values with the values the Navy has been using, as well as the comparison of your modified BRPGs against the RGs that you now assert are protective.

=> Our letter doesn't say that any RGs are not protective. The preliminary evaluation described in our letter, using a modified version of the BPRG calculator, estimates risks for four radionuclides in the 1 x 10-4 to 2 x 10-4 range. A risk above 1 x 10-4 is protective in some circumstances. The four radionuclides, the current RGs, and the modified PRGs referred to in our letter associated with a 1 x 10-4 risk are:

	RGs for Fixed Contamination - Residential Exposure	
	Current HPNS RGs *(dpm/ 100 cm2)*	**Modified RGs at 1 x 10-4** *(dpm/ 100 cm2)*
Cs-137	5000	3650
Co-60	5000	2500
Eu-152	5000	2350
Eu-154	5000	2900

3. The statement: "We propose that BPRGs be used as limits on the removable fraction of the radioactivity (i.e.,dust). Our preliminary calculations using default exposure assumptions result in BPRGs substantially lower than 20% of the RGs." In addition to providing the documentation for this conclusion, we would appreciate it if you would provide the BPRGs you are proposing for removable radioactivity and the comparison to the RGs the Navy has been using.

=> As our letter indicates, we are unable, at this time, to support the use of RESRAD BUILD to evaluate the removable fraction of any residual radiological contamination in the buildings. In our letter we propose that the Navy consider the use of BPRGs. We are in discussions with the Navy about our

proposal, and what site-specific assumptions might be appropriate in place of default exposure assumptions. As we have commented previously, the use of default values may provide inappropriately-high risk estimates and I do not expect that BPRGs based on default inputs to be adopted for use at Hunters Point. PRGs associated with a 1 x 10-4 risk and based on default exposure assumptions are:

	Limits for Removable Contamination - Residential Exposure	
	Current Limits (20% of RGs, in *dpm/ 100 cm2)*	**BPRGs using default inputs at 1 x 10-4** (*dpm/ 100 cm2)*
Am-241	20	4.4
Cs-137	1000	149
Co-60	1000	126
Eu-152	1000	101
Eu-154	1000	204
H-3	1000	77,256
Pu-239	20	4.1
Ra-226	20	1.2
Sr-90	200	51
Th-232	7.3	2.4
U-235	97.6	4.7

These should be the same values you get from the online calculator.

Thank you.

Dan Hirsch